Digital Timer *Eliro*®

- Compact 17.5 mm Wide
- Multi Function: (8 or 18) Non Signal & Signal based functions
- Multi-Voltage: 24 - 240 VAC/DC
- Wide Timing Range: 0.1s to 999 Hr
- 3 Digit LCD for Preset time and Run time
- Option to select Up/Down counting
- Tamper proof with key lock feature

Cat. No.		V0DDTS	V0DDTD	V0DDTS1	V0DDTD1
Parameters					
Timer Description		Multi Function Digital Timer			
Functions		1) ON Delay 2) Cyclic OFF/ON 3) Cyclic ON/OFF 4) Signal ON/OFF 5) Signal OFF Delay 6) Interval 7) Signal OFF/ON 8) One Shot Output		1) ON Delay 2) Cyclic OFF/ON 3) Cyclic ON/OFF 4) Impulse on Energizing 5) Accumulative Delay on Signal 6) Accumulative Delay on Inverted Signal 7) Accumulative Impulse on Signal 8) Signal ON Delay 9) Inverted Signal ON Delay 10) Signal OFF Delay 11) Impulse ON/OFF 12) Signal OFF/ON 13) Leading Edge Impulse 1 14) Leading Edge Impulse 2 15) Trailing Edge Impulse 1 16) Trailing Edge Impulse 2 17) Delayed Impulse 18) Inverted Signal ON Delay	
Supply Voltage (⏚)		24 - 240 VAC/DC			
Supply Variation		-15% to +10% (of ⏚)			
Frequency		50/60 Hz			
Power Consumption (Max.)		0.5 VA (@ 24/48 VAC), 4 VA (@ 110 to 265 VAC/DC)			
Timing Range		0.1s to 999h			
Reset Time		200 ms (Max.)			
Repeat Accuracy		± 0.5%			
Output	Relay Output	1 C/O	2 NO	1 C/O	2 NO
	Contact Rating	8A @ 240 VAC / 24 VDC (Resistive)			
	Electrical Life	$1x10^5$			
	Mechanical Life	$2x10^7$			
Utilization Category	AC - 15	Rated Voltage (Ue): 125/240 V, Rated Current (Ie): 3/1.5 A			
	DC - 13	Rated Voltage (Ue): 125/250 V, Rated Current (Ie): 2/0.22/0.1 A			
Operating Temperature		-10° C to +55° C			
Storage Temperature		-20° C to +65° C			
Humidity (Non Condensing)		95% (Rh)			
LED Indication		Red LED → Relay ON			
Enclosure		Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)		18 X 85 X 76			
Weight (unpacked) Approx.		85 g			
Mounting		DIN Rail			
Certification		CE, cULus LISTED, RoHS Compliant			
Degree of Protection		IP 20 for Terminals, IP 30 for Enclosure			
EMI / EMC					
Harmonic Current Emissions		IEC 61000-3-2	Ed. 3.2 (2009-04) Class A		
ESD		IEC 61000-4-2	Ed. 2.0 (2008-12) Level II		
Radiated Susceptibility		IEC 61000-4-3	Ed. 3.2 (2010-04) Level III		
Electrical Fast Transients		IEC 61000-4-4	Ed. 3.0 (2012-04) Level IV		
Surges		IEC 61000-4-5	Ed. 2.0 (2005-11) Level IV		
Conducted Susceptibility		IEC 61000-4-6	Ed. 3.0 (2008-10) Level III		
Voltage Dips & Interruptions (AC)		IEC 61000-4-11	Ed. 2.0 (2004-03) All 7 Levels		
Voltage Dips & Interruptions (DC)		IEC 61000-4-29	Ed. 1.0 (2000-08) All 5 Levels		
Conducted Emission		CISPR 14-1	Ed. 5.2 (2011-11) Class A		
Radiated Emission		CISPR 14-1	Ed. 5.2 (2011-11) Class B		
Environmental					
Cold Heat		IEC 60068-2-1	Ed. 6.0 (2007-03)		
Dry Heat		IEC 60068-2-2	Ed. 5.0 (2007-07)		
Vibration		IEC 60068-2-6	Ed. 7.0 (2007-12) 5g		
Repetitive Shock		IEC 60068-2-27	Ed. 4.0 (2008-02) 40g, 6ms		
Non-Repetitive Shock		IEC 60068-2-27	Ed. 4.0 (2008-02) 30g, 15ms		

ORDERING INFORMATION

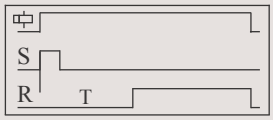
Cat. No.	Description
V0DDTS	24 - 240 VAC/DC, Multi Function Digital Timer - Eliro (8 Functions), 1 C/O
V0DDTD	24 - 240 VAC/DC, Multi Function Digital Timer - Eliro (8 Functions), 2 NO
V0DDTS1	24 - 240 VAC/DC, Multi Function Digital Timer - Eliro (18 Functions), 1 C/O
V0DDTD1	24 - 240 VAC/DC, Multi Function Digital Timer - Eliro (18 Functions), 2 NO

FUNCTIONAL DIAGRAMS FOR V0DDTS & V0DDTD

: Supply Voltage, S: Input Signal, R: Relay Output
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time

ON DELAY (A)

On application of supply voltage, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the supply voltage is present



CYCLIC OFF/ON {OFF Start, (Sym, Asym)} (b)

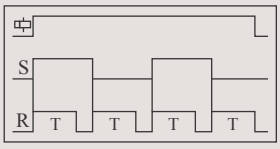
On application of supply voltage, the output is initially switched OFF for the preset 'OFF' time duration (TOFF) after which it is switched ON for the preset 'ON' time duration (TON). This cycle repeats and continues till the supply is present.

CYCLIC ON/OFF {ON Start, (Sym, Asym)} (C)

On application of supply voltage, the output is initially switched ON for the preset 'ON' time duration (TON) after which it is switched OFF for the preset 'OFF' time duration (TOFF). This cycle repeats and continues till the supply is present.

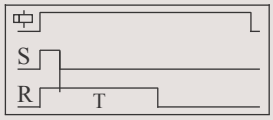
SIGNAL ON/OFF (d)

The output relay is turned ON for Preset Time (T) whenever the Signal(S) is applied or removed.



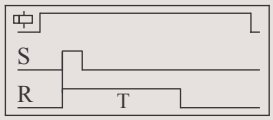
SIGNAL OFF DELAY (E)

On application of supply voltage and input signal, the output is switched ON. When the signal is removed the preset time duration commences & the output is switched OFF at the end of the time duration.



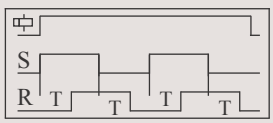
INTERVAL (F)

When supply power is applied to the timer and on application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF.



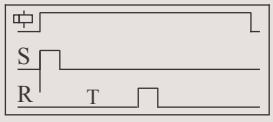
SIGNAL OFF / ON (G)

When Signal (S) is applied or removed, the relay changes its state after Timer Duration (T)



ONE SHOT OUTPUT (H)

When Signal (S) is applied, the Timer Duration (T) starts. At the end of Timer duration (T), the relay gets energized for approximately 1 sec.(Refer Note : 2)



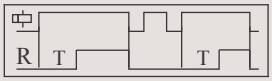
Note:
1. For Power-On operation, connect the terminal B1 to A1 permanently.
2. If the Signal (S) changes during the Timer Duration (T), it does not change the output relay but re-triggering takes places and the Timer Duration is extended.

FUNCTIONAL DIAGRAMS FOR V0DDTS1 & V0DDTD1

: Supply Voltage, S: Input Signal, R: Relay Output
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time

ON DELAY [0]

On application of supply voltage, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the supply voltage is present.



CYCLIC OFF/ON {OFF Start, (Sym, Asym)} [1]

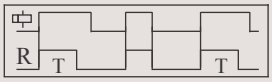
On application of supply voltage, the output is initially switched OFF for the preset 'OFF' time duration (TOFF) after which it is switched ON for the preset 'ON' time duration (TON). This cycle repeats and continues till the supply is present.

CYCLIC ON/OFF {ON start, (Sym, Asym)} [2]

On application of supply voltage, the output is initially switched ON for the preset 'ON' time duration (TON) after which it is switched OFF for the preset 'OFF' time duration (TOFF). This cycle repeats and continues till the supply is present.

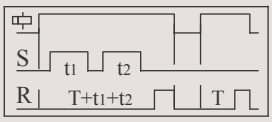
IMPULSE ON ENERGIZING [3]

On application of supply voltage, the output is instantly switched ON for the preset time duration (T) after which it is switched OFF.



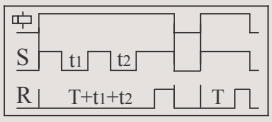
ACCUMULATIVE DELAY ON SIGNAL [4]

On application of supply voltage, the preset timing duration commences. When input signal is applied, the timing pauses and resumes only when the input signal is removed. The output is switched ON at the end of the preset time duration (T).



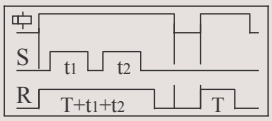
ACCUMULATIVE DELAY ON INVERTED SIGNAL [5]

On application of supply voltage and input signal, the preset timing duration commences. When the signal is removed the timing pauses and resumes when the signal is applied. The output is switched ON at the end of the preset time duration (T).



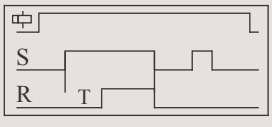
ACCUMULATIVE IMPULSE ON SIGNAL [6]

On application of supply voltage the output is switched ON & the preset timing duration commences. When the signal is applied the timing pauses and resumes when the signal is removed. The output is switched OFF at the end of the preset time duration (T).



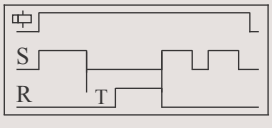
SIGNAL ON DELAY [7]

On application of input signal, the preset time duration (T) starts. On completion of the preset time, the output is switched ON and remains ON till the input signal is present



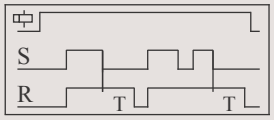
INVERTED SIGNAL ON DELAY [8]

On application of supply voltage, the preset time duration (T) starts. When input signal is applied, the timing pauses & resumes only when the signal is removed. On completion of the preset time, the output is switched ON.



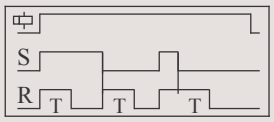
SIGNAL OFF DELAY [9]

On application of supply voltage and input signal, the output is switched ON. When the signal is removed the preset time duration commences & the output is switched OFF at the end of the time duration.



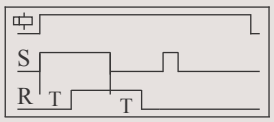
IMPULSE ON/OFF [A]

On application or removal of input signal, the output is switched ON & the preset time duration (T) starts. On completion of the time duration the output is switched OFF. When timing commences, changing the state of the input signal resets the time.



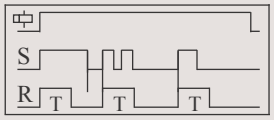
SIGNAL OFF/ON [b]

On application of input signal, the preset delay time period (T) starts. On completion of the preset time, the output is switched ON. On removal of input signal, the preset time period starts again and the output is switched ON when the preset time duration is complete.



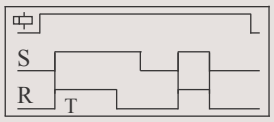
LEADING EDGE IMPULSE1 [C]

On application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF. If the input signal is removed during the preset time, the output remains unaffected.



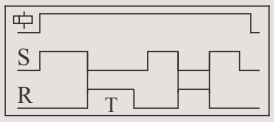
LEADING EDGE IMPULSE2 [d]

On application of input signal the output is immediately switched ON. The output remains ON for the preset time duration (T) after which it is switched OFF. If the input signal is removed during the preset time, the output is immediately switched OFF.



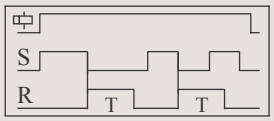
TRAILING EDGE IMPULSE1 [E]

When the input signal to the timer is removed, the output is immediately switched ON for the preset time duration (T) after which it is switched OFF. If the input signal is applied during the preset time, the output is immediately switched OFF.



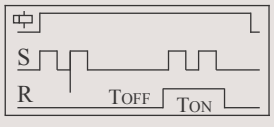
TRAILING EDGE IMPULSE2 [F]

When the input signal to the timer is removed, the output is immediately switched ON for the preset time duration (T) after which it is switched OFF. If the input signal is applied during the preset time, the output remains unaffected.



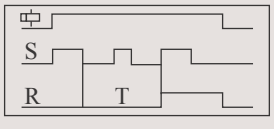
DELAYED IMPULSE [G]

On application of input signal, the preset 'OFF' time duration (TOFF) starts. the output is switched ON at the end of the preset 'OFF' time duration & the preset 'ON' time duration commences irrespective of signal level and remains ON till the completion of 'TON'.

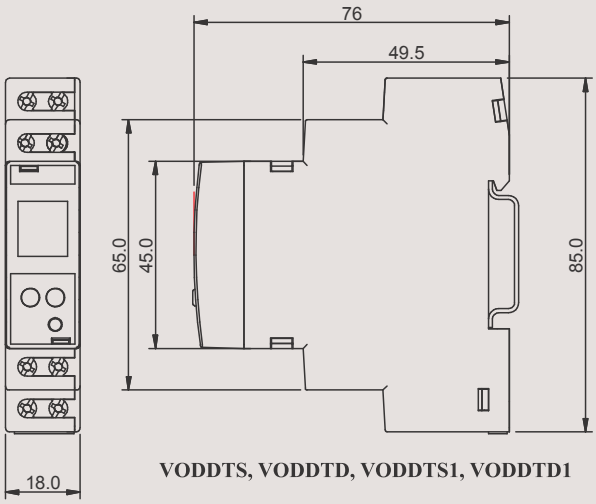


INVERTED SIGNAL ON DELAY-TYPE 2 [H]

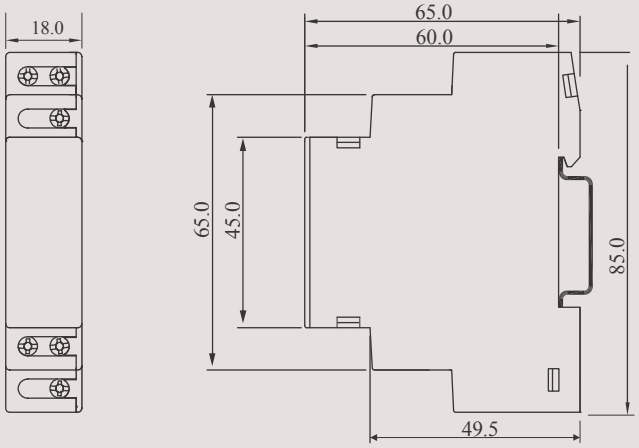
Timing starts only upon signal 'S' transition high to low. During timing or after completion of Time (i.e. relay on), any signal transition is ignored. To reset the timer supply has to be interrupted.



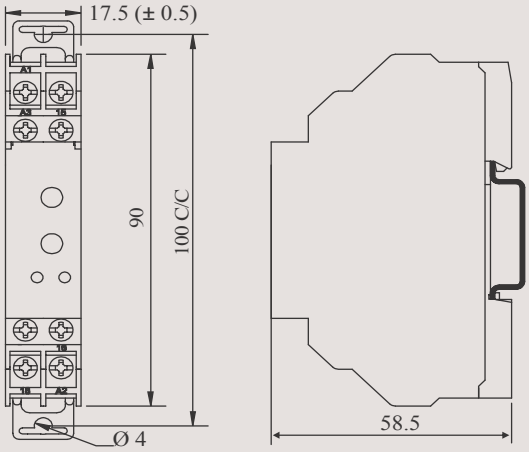
MOUNTING DIMENSIONS (mm)



VODDTS, VODDTD, VODDTS1, VODDTD1

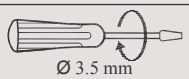


1CMDT0, 1CJDT0, STAIRCASE TIMER

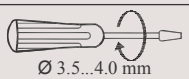


110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0
11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4

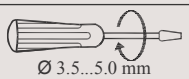
TERMINAL TORQUE & CAPACITY

 Ø 3.5 mm	Torque - 0.40 N.m (3.5 Lb.in) Terminal screw - M2.5
	Solid Wire - 1 X 0.3...2.5 mm²
AWG	1 X 22 to 14

VODDTS, VODDTD, VODDTS1, VODDTD1

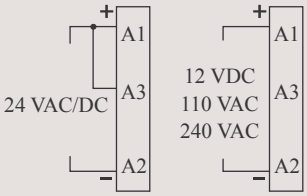
 Ø 3.5...4.0 mm	Torque - 0.6 N.m (6 Lb.in) Terminal screw - M3
	Solid Wire - 1 X 1...4 mm²
AWG	1 X 18 to 10

1CMDT0, 1 CJDT0, STAIRCASE TIMER

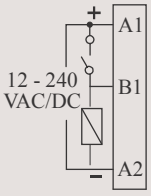
 Ø 3.5...5.0 mm	Torque - 1.1 N.m (10 Lb.in) Terminal screw - M3.5
	Solid Wire - 2 X 0.2...2.5 mm²
AWG	1 X 24 to 10

110DT4, 120DT4, 150DT4, 11SDT0, 12SDT0
11ODT8, 12ODT8, 11BDT4, 12BDT4, 15BDT4

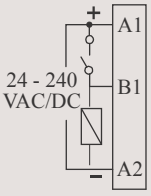
CONNECTION DIAGRAM



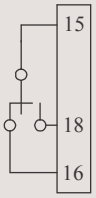
110DT4, 120DT4, 150DT4,
11SDT0, 12SDT0, 11ODT8,
12ODT8, 11BDT4, 12BDT4, 15BDT4



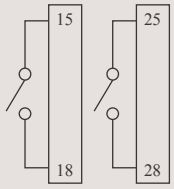
1CMDT0,
1CMDTB,
1CJDTB



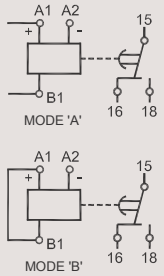
VODDTS, VODDTD,
VODDTS1, VODDTD1



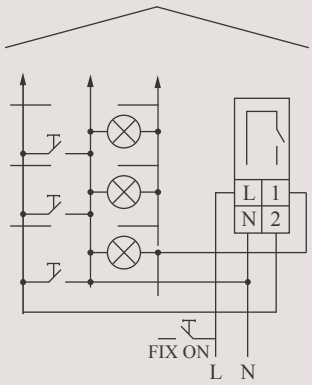
110DT4, 120DT4, 150DT4,
11SDT0, 12SDT0, 11ODT8,
12ODT8, 11BDT4, 12BDT4,
15BDT4,1CMDT0. 1CJDT0,
VODDTS, VODDTS1



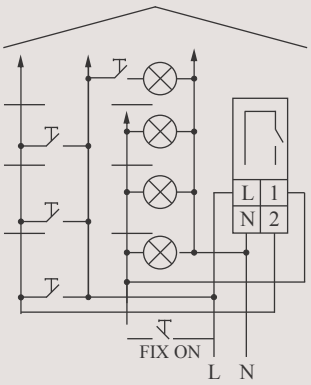
VODDTD, VODDTD1,
STAIRCASE TIMER



1CJDT0



3 Wire Configuration



4 Wire Configuration

STAIRCASE TIMER